To: CN=Steve Markham/OU=ADA/O=USEPA/C=US@EPA[]
Cc: CN=Sujith Kumar/OU=ADA/O=USEPA/C=US@EPA;CN=Cindy Paul/OU=ADA/O=USEPA/C=US@EPA;CN=Rick Wilkin/OU=ADA/O=USEPA/C=US@EPA;CN=Shauna Bennett/OU=ADA/O=USEPA/C=US@EPA[]; N=Cindy Paul/OU=ADA/O=USEPA/C=US@EPA;CN=Rick Wilkin/OU=ADA/O=USEPA/C=US@EPA;CN=Shauna Bennett/OU=ADA/O=USEPA/C=US@EPA[]; N=Rick Wilkin/OU=ADA/O=USEPA/C=US@EPA;CN=Shauna Bennett/OU=ADA/O=USEPA/C=US@EPA[]; N=Shauna Bennett/OU=ADA/O=USEPA/C=US@EPA[]
From: CN=Steve Vandegrift/OU=ADA/O=USEPA/C=US
Sent: Tue 7/17/2012 1:24:12 PM
Subject: Re: Pavillion ADQ Phase V, metals

Yes. Although that wasn't the subject of this particular ADQ issue. It will allow for evaluations of ICP-MS matrix spikes under the same circumstances.

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From: Steve Markham/ADA/USEPA/US
To: Steve Vandegrift/ADA/USEPA/US@EPA
Cc: Sujith Kumar/ADA/USEPA/US@EPA, Cindy Paul/ADA/USEPA/US@EPA, Rick Wilkin/ADA/USEPA/US@EPA, Shauna Bennett/ADA/USEPA/US@EPA
Date: 07/17/2012 07:53 AM
Subject: Re: Pavillion ADQ Phase V, metals

We'll just run a blank spike with the dissolved metals and label it LCS. I guess this would pertain to the ICP-MS also?

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Cc: Sujith Kumar/ADA/USEPA/US@EPA, Cindy Paul/ADA/USEPA/US@EPA, Rick Wilkin/ADA/USEPA/US@EPA, Shauna Bennett/ADA/USEPA/US@EPA
Date: 07/17/2012 07:45 AM
Subject: Re: Pavillion ADQ Phase V, metals

Then it should be identified in the analytical report that it (whichever CCC it is) is equivalent to the LCS.

sv

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To: Steve Vandegrift/ADA/USEPA/US@EPA
Cc: Sujith Kumar/ADA/USEPA/US@EPA, Cindy Paul/ADA/USEPA/US@EPA, Rick Wilkin/ADA/USEPA/US@EPA, Shauna Bennett/ADA/USEPA/US@EPA
Date: 07/17/2012 07:42 AM
Subject: Re: Pavillion ADQ Phase V, metals

It's made from the same solutions and at the same concentrations as the matrix spike.

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Cc: Cindy Paul/ADA/USEPA/US@EPA, Rick Wilkin/ADA/USEPA/US@EPA, Shauna Bennett/ADA/USEPA/US@EPA, Steve Markham/ADA/USEPA/US@EPA
Date: 07/17/2012 07:39 AM
Subject: Re: Pavillion ADQ Phase V, metals

An LCS is spiked with same spiking solution as a matrix spike. Does a CCC meet this requirement?

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From: Sujith Kumar/ADA/USEPA/US
To: Steve Vandegrift/ADA/USEPA/US@EPA
Cc: Cindy Paul/ADA/USEPA/US@EPA, Rick Wilkin/ADA/USEPA/US@EPA, Shauna Bennett/ADA/USEPA/US@EPA, Steve Markham/ADA/USEPA/US@EPA
Date: 07/17/2012 07:05 AM
Subject: Re: Pavillion ADQ Phase V, metals

Steve:

Please see the responses below.

Recommended Correction Action.
(a) The laboratory needs to be instructed to ensure that the analytical runs include CCCs that bracket all samples with all elements that are reported.

Shaw will initiate the analysis of CCCs that contains all elements at the beginning, every 10 samples, and at the end of every analytical sequence effective 07-17-12.

The laboratory should also be instructed to include an LCS that is spiked at the same spiking solution as the samples to allow for evaluations of recovery in instances where sample concentrations are high relative to the spiking concentration.

For total metals, Shaw has implemented digesting a LCS for both ICP and ICP-MS.

For dissolved metals, LCS is at the same concentration as the CCC. It is not clear if EPA is requesting an LCS analysis in addition to the CCC and second source standards. The LCS, CCC, and second source are treated identically. Please let us know if an additional analysis is required.

(b) The following samples need to be flagged J2 due to incomplete CCC frequency for Al, Ag, B, Ba, K, Na, S, Si, and P. (c) Silver needs to be flagged with K2 due to low matrix spike recovery. The J2 flag would also apply due to the lack of matrix spike recovery data for Na data for all samples, which was already indicated to be flagged in “b”.

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Cc: Steve Markham/ADA/USEPA/US@EPA, Shauna Bennett/ADA/USEPA/US@EPA, Cindy Paul/ADA/USEPA/US@EPA, Rick Wilkin/ADA/USEPA/US@EPA
Date: 07/16/2012 05:16 PM
Subject: Pavillion ADQ Phase V, metals

Suji-

Please see "a" in the Recommended Corrective Action below. This email serves as notice for instructing the laboratory to implement these QC checks. The CCCs are not a new requirement. It is not known if LCS samples are currently being done or not (this should done on both dissolved and total metals).

Please provide feedback on implementation of these checks on Tuesday, 7/17/12.

Steve

1. Metals/major cations via ICP-OES. Not every element that is reported was included in a continuing calibration check (CCC) standard to bracket all samples. It is noted that the second source standard analyzed prior to the samples did contain all reported elements and was within the acceptance criteria, and when the CCC was analyzed it did meet the acceptance criteria. Therefore there are calibration checks that bracket the samples, but in several instances the beginning check is from the second source, not the CC check standards. These checks indicate the instrument was under control, but that the exact SOP requirements were not met with respect to continuing calibration checks.

The matrix spike samples analyzed by ICP-OES for both the total and the filtered samples for sodium could not be evaluated due to the high sodium concentrations in the samples relative to the spike concentration. For matrix spike samples for filtered samples, one matrix spike for silicon and sulfur could not be evaluated due to the high silicon and sulfur concentrations in the samples relative to the spike concentration. The pre-digestion matrix spike for silver had low recovery, likely due to the lack of HCl acid in the digestion procedure. The post-digestion matrix spike recovery for silver was acceptable.

Recommended Correction Action. (a) The laboratory needs to be instructed to ensure that the analytical runs include CCCs that bracket all samples with all elements that are reported. The laboratory should also be instructed to include an LCS that is spiked at the same spiking solution as the samples to allow for evaluations of recovery in instances where sample concentrations are high relative to the spiking concentration. (b) The following samples need to be flagged J2 due to incomplete CCC frequency for Al, Ag, B, Ba, K, Na, S, Si, and P. (c) Silver needs to be flagged with K2 due to low matrix spike recovery. The J2 flag would also apply due to the lack of matrix spike recovery data for Na data for all samples, which was already indicated to be flagged in “b”.

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